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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,041	01/20/2004	Joe William Heathcott	CDI 30	1194
27297	7590	04/04/2006	EXAMINER	
DAVID M. O'BRIAN 5007 HARTWELL DR. HOUSTON, TX 77084			PICKARD, ALISON K	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/761,041

Applicant(s)

HEATHCOTT ET AL.

Examiner

Alison K. Pickard

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield (5,163,692) in view of Iverson '685.

Schofield discloses a power end seal (capable of being used in pump) comprising a u-shaped body 11 (e.g. Figs. 4 or 9 and see col. 5, line 3) having an inner wall portion 32, an outer wall portion 30, and seat 12. The seal has a u-shaped open channel 28 (col. 5, lines 28-29). The seal has an inner diameter composite dynamic seal 18/22 and an outer diameter static seal 20. The upper ends of the inner wall and outer wall have lips affixed (in a similar manner that applicant's are "affixed"). In other words, the ends of the walls form lips. The composite wear surface is comprised of bronze or carbon filled PTFE. Schofield does not disclose plural ribs in the channel. Iverson teaches a seal having plural ribs in a groove connected to surfaces of the lips of the seal. Iverson teaches that the ribs are an improvement over prior art expanders (i.e. Schofield's spring 14) and accommodates a large range of expansion and compression (see 1:28-42 and 65-66). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the ribs taught by Iverson to improve the seal and accommodate large expansion/compression ranges.

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3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield in view of Iverson.

Schofield discloses a power end seal (capable of being used in pump) comprising a u-shaped body 11 (e.g. Figs. 4 or 9 and see col. 5, line 3) having an inner wall portion 32, an outer wall portion 30, and seat 12. The seal has a u-shaped open channel 28 (col. 5, lines 28-29). The seal has an inner diameter composite dynamic seal 18/22 with a wear surface and an outer diameter static seal 20. The upper ends of the inner wall and outer wall have lips affixed (in a similar manner that applicant's are "affixed"). In other words, the ends of the walls form lips. Schofield does not disclose plural ribs in the channel. Iverson teaches a seal having plural ribs in a groove connected to surfaces of the lips of the seal. Iverson teaches that the ribs are an improvement over prior art expanders (i.e. Schofield's spring 14) and accommodates a large range of expansion and compression (see 1:28-42 and 65-66). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the ribs taught by Iverson to improve the seal and accommodate large expansion/compression ranges. Schofield does not disclose the wear surface comprises aramid filled rubber the selection of a known material based on its suitability for its intended use is not considered inventive. See *In re Leshin*, 125 USPQ 416 (CCPA 1960). And, aramid filled rubber is a known material used in seals as evidenced by Keifer, Atkinson, and Sakakibara. It would have been obvious for one of ordinary skill in the art at the time the invention was made to make the composite surface from aramid fiber filled rubber.

***Response to Arguments***

4. Applicant's arguments filed 1-13-06 have been fully considered but they are not persuasive.

Schofield clearly discloses that the body and the channel are u-shaped (see col. 5, lines 3 and 28-29). Figure 9, for example also shows a clear u-shape.

Iverson teaches the use of the ribs over “an expander ring” of prior art seals. While Iverson gives an example of an elastomeric expander, Iverson is not limited to such. Balsells '904, for example gives art equivalent examples of typical “expanders” used in u-cup packing, including elastomeric and metal spring expanders. Incidentally, Balsells could also be modified with the rib teaching to achieve the claimed invention. As for the different features disclosed by Iverson, Iverson is only being applied for the teachings of the ribs. Schofield already discloses the body shape as required by the claims. And, Iverson does disclose a u-shaped cavity (col. 2, lines 38). Collins also discloses and teaches a u-shaped seal with a u-shaped groove with ribs.

Regarding claim 8, the selection of a known material based on its suitability for its intended use is not considered inventive. See *In re Leshin*, 125 USPQ 416 (CCPA 1960). It is known to reinforce a rubber with aramid fibers. Thus, an aramid fiber filled rubber is a known material (see Keifer, Sakakibara, and Atkinson for evidence). And, it is known to use such material in a seal. Additionally, aramid fibers are a polymeric material. And, Aramid and glass fibers are art equivalents as taught by Sakakibara. Wheeler teaches reinforcing a u-cup seal with a polymeric material and/or a glass fiber. Thus, one of ordinary skill in the art would know that rubber can be reinforced with aramid fibers (a known polymer and an equivalent to glass fiber) and such reinforcement is used in u-cup packing.

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Finally, the added lip limitations do not distinguish over the lips of Schofield. There is no structure or limitation that would prevent the tip ends (i.e. portions forming the sealing lips) of the legs/walls of the seal from being considered a lip profile affixed to the wall.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 571-272-7062. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tricia Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alison K. Pickard  
Primary Examiner  
Art Unit 3673

AP